AMENDMENTS TO THE CLAIMS

1.   (Currently Amended) In system for maintaining a plurality of assemblies including a plurality of replaceable components, the system having a computer with software for implementing a method of determining a time interval at which unscheduled demand for the components is expected to occur, the method comprising:

establishing a plurality of statistical models for a probability of unscheduled component demand as a function of time and a failure rate of a component, wherein each of the plurality of statistical models includes a linear combination of variables pertaining to component use;

for each component, collecting historical unscheduled component demand data;

for each component, using the collected historical unscheduled component demand data to select one statistical model from the plurality of statistical models, wherein the selected model most closely matches the historical unscheduled component demand data;

for each component, selecting an allowable probability of underestimating an average failure rate, α; and

using the selected statistical model to calculate a time interval at which the unscheduled component demand is expected to occur.

2.   (Previously Presented) The method of claim 1, wherein using the selected statistical model comprises calculating a time interval when a probability of a next unscheduled component demand event equals the probability that the unscheduled component demand will not exceed the allowable probability $(1-\alpha)$.

3.   (Previously Presented) The method of claim 1, wherein each statistical model comprises a Poisson distribution having a parameter λ.

4.   (Previously Presented) The method of claim 3, wherein selecting the statistical model comprises selecting an equation for λ.

5.   (Currently Amended) The method of claim 1, further comprising eliminating insignificant variables and variables that cause multicollinearity from each of the ~~stastical~~ statistical models using the historical unscheduled component data.

6.   (Canceled)

7.   (Currently Amended) A computer software encoded with a program for forecasting unscheduled demand for a plurality of different components, the <u>program when executed performing the steps of</u> <s>method comprising</s>:

establishing a plurality of statistical models for modeling unscheduled demand for the components as a function of a failure rate of each of the components, wherein each of the plurality of statistical models includes a linear combination of variables pertaining to component use;

<u>for each component, collecting historical unscheduled component demand data;</u>

for each component, selecting one of the statistical models of the plurality of statistical models for a probability of unscheduled component demand<u>, wherein the selected statistical model most closely matches the historical unscheduled demand data corresponding to the component</u>; and

for each component, determining a date at which a cumulative probability of unscheduled component demand reaches a predetermined threshold.

8.   (Previously Presented) The program of claim 7, wherein each statistical model comprises an N-erlang distribution, wherein the N-erlang distribution includes a parameter λ.

9.   (Currently Amended) The program of claim 8, wherein <u>the step of</u> selecting the statistical models comprises selecting an equation for the parameter λ.

10.   (Previously Presented) The program of claim 7, wherein each statistical model corresponds to a Poisson distribution, wherein the Poisson distribution has a parameter λ.

11.   (Currently Amended) The program of claim 10, wherein <u>the step of</u> selecting the statistical models comprises selecting an equation for λ.

12.   (Previously Presented) The method of claim 1, wherein the failure rate of the component is a function of temperature.

13.   (Previously Presented) The method of claim 1, wherein the failure rate of the component is a function of hours of operation.

14.   (Previously Presented) The method of claim 1, wherein the failure rate of the component is a function of flight cycles.

15.   (Canceled)

16.   (Canceled)